Editorial: 18th International Workshop on Numerical Methods for Non-Newtonian Flows

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This issue of the Journal of Non-Newtonian Fluid Mechanics includes a series of papers based on work presented at the International Workshop on Numerical Methods for Non-Newtonian Flows, held June 12th-June 15th 2017 at the University of British Columbia, Vancouver, Canada. This was the 18th edition of this workshop. A list of participants is provided in Table 1. The previous edition took place in Blois, France, in 2012 and the next edition is scheduled to be held in Portugal in June 2019.

The International Workshops on Numerical Methods in Non-Newtonian Flows (IWNMNNF) have been held roughly biennially, alternating between North America and Europe since 1979. The objective of all workshops over the years has always been to discuss numerical methods for the solution of complex fluid flow problems. While the emphasis was at the start on viscoelastic materials, the workshops have progressively broadened their scope to simulation methods at various scales (Discrete Element Method, Brownian/Stokesian dynamics, Dissipative Particle Dynamics, particle-resolved simulation, Volume-of-Fluid/Level Set method, etc), as used in the solution of flow problems involving, e.g., granular materials, multiphase mixtures or fluid/fluid interfaces, among others. Equally, the strong links between computation, analytical and experimental methods are emphasized in moving forward to robustly solve practical problems.

The theme of the 18th edition of IWNMNNF was Complex Fluids and Flows in Industry and Nature, and was held together with the 3rd COFFIN workshop at the University of British Columbia, Vancouber, Canada. The objective of IWNMNNF18 and COFFIN3 was to bring together leading researchers across several disciplines to foster awareness and the transfer of ideas in the field of computational and mathematical non-Newtonian and multiphase fluid mechanics. About 80 participants attended the single-session workshop. We discussed challenges, recent progress, future directions and emerging applications of complex fluids and flows. Contributions of computational, analytical or experimental nature, were welcome and focused at exposing and understanding interesting fluid mechanics problems and phenomena within the workshop theme. A total of 45 talks were presented, spanning topics from instabilities in viscoleastic fluid flows, advanced algorithms for the solution of viscoplastic fluid flows, complex flows with interfaces to shear-thickening suspensions and locomotion in non-Newtonian fluids.

University of British Columbia and the city of Vancouver also had much to offer to participants beyond the workshop. The social program also provided participants with many opportunities to discuss and network. The eve of the workshop started with an ice-breaking drinks & food reception on UBC campus. An occasion to chat with long-term colleagues and meet new faces in the warm and casual atmosphere on the Mahony and Son's pub. Two additional social events were organized: a dinner by the museum of Vancouver over the first evening and a dinner cruise in the Vancouver bay over the second evening. The afternoon of the second day of the workshop did not hold any session and instead offered various options including a visit to the museum of Anthropology on UBC campus to learn about first nations cultural heritage, an interesting visit of the technical facilities of Coanda https://coanda.ca, a local engineering company in the field of Fluid Mechanics, or playing a golf course. Overall, the meeting was a success, both at the

scientific level and at the social level.

IWNMNNF18 and COFFIN3 were organized by Anthony Wachs and Ian Frigaard, University of British Columbia, Vancouver, Canada, Michael Graham, University of Wisconsin-Madison, USA, Peter Wapperom, Virginia Tech, Blacksburg, USA and Jeff Morris, City College of New York, USA. The worshop gratefully acknowledges the generous sponsorship of the Pacific Institute for Mathematical sciences https://www.pims.math.ca, and of the Faculty of Applied Science at UBC, https://apsc.ubc.ca. We are also grateful to the editors-in-chief of the Journal of Non-Newtonian Fluid Mechanics for agreeing to publish the proceedings of the workshop in this special issue. See you all in 2019 in Portugal for the 19th edition of IWNMNNF.

Micheline Abbas	Savvas Hatzikiriakos	Michael Renardy
Shahriar Afkhami	Ruri Hidema	Yuriko Renardy
Seyed Ali Etrati	Sarah Hormozi	Alondra Renteria Ruiz
Antony Beris	Majid Hosseini	Ali Roustaei
Luca Brandt	Amanda Howard	Parisa Sarmadi
Emad Chaparian	Martien Hulsen	Alireza Sarraf Shirazi
Pam Cook	Bamin Khomami	Can Selcuk
Michael Cromer	Youngdon Kwon	Arman Seyed-Ahmadi
Linda Cummings	Joanna Lapucha	Mohammad Shanb Ghazani
Masoud Daneshi	Ye Liu	Eric Shaqfeh
Darwin Kiel	Jordan MacKenzie	Mohammad Shariati
Charu Datt	Amir Maleki	Vladimir Shelukhin
Sean Delfel	Ali Mani	Saverio Spagnolie
Babak Derakhshandeh	Mark Martinez	Boris Stoeber
Mohar Dey	Evan Mitsoulis	Radhakrishna Sureshkumar
Neville Dubash	Roozbeh Mollaabbasi	Hiroshi Suzuki
Tom Eaves	Krishnaswamy Nandakumar	Seyed Mohammad Taghavi
Gwynn Elfring	Mehdi Niazi Ardekani	Stefan Turek
Amir Esteghamatian	Miguel Nobrega	Ali Vakil
James Feng	Sooran Noroozi	Paula Vasquez
Jonathan Freund	Ben Ovryn	Anthony Wachs
Ian Frigaard	Rob Poole	Peter Wapperom
John Frostad	Konstantin Pougatch	Li Xi
Clara Gomez	Mingfeng Qiu	Zhaosheng Yu
Sergio Gonzalez-Andrade	Mona Rahmani	Marjan Zare
Michael Graham	Daniel Rakotonirina	Lin Zhou
Nikoo Hanachi	Arun Ramchandran	

Table 1 Participants to the 18th International Workshop on Numerical Methods in Non-Newtonian Flows and 3rd Complex Fluids and Flows in Industry and Nature workshop